

IN THE CLAIMS

Please amend the claims as follows:

1-3. (Cancelled).

4. (Previously Presented) A loudspeaker protection system comprising:

filter means for defining one or more frequency bands of an audio signal;

5           controllable amplifier/attenuator means coupled to the filter means; and

processing means coupled to control the amplifier/attenuator means, such as to determine audio power in at least one of said frequency bands representing relevant loudspeaker protection information used for selective audio power control in said at least one frequency band,

10           characterized in that the processing means determines the audio power  $S_j$  in frequency band  $j$  in proportion to:

$$v_{j\text{top}}^2 * R\{Y_j\},$$

15   where  $v_{j\text{top}}$  is the peak value of the amplitude of the frequency components in frequency band  $j$ , and  $R\{Y_j\}$  is the real part of the electric admittance of the loudspeaker in frequency band  $j$ , and the processing means sums the audio power  $S_j$  in the plurality of

frequency bands over a specified sub-range of possible values of j,  
20 where j ranges from 1, 2, ... n.

5. (Previously Presented) The loudspeaker protection system as claimed in claim 4, characterized in that if any summed value or combination of values  $S_j$  approximates a normalized value  $S_{norm}$ , the processing means then controls the amplifier/attenuator means.

6. (Previously Presented) The loudspeaker protection system as claimed in claim 4, characterized in that the processing means determines  $S_j$  or any summation thereof every 0.001 - 2 sec.

7. (Previously Presented) The loudspeaker protection system as claimed in claim 5, characterized in that the processing means controls the amplifier/attenuator means such that attenuation factors of the amplifier/attenuator means are proportional to:

5 
$$1 / \sqrt{\alpha} + \beta_j (1 - 1 / \sqrt{\alpha})$$

where  $\alpha = S/S_{norm}$ , S is the summed value, and  $\beta_j$  represents a factor having a value depending empirically on the particular frequency band j.

8. (Currently Amended) ~~The loudspeaker protection system as~~  
~~claimed in claim 1A~~ a loudspeaker protection system comprising:

filter means for dividing a frequency spectrum of an input audio signal into a plurality of frequency bands;

5 controllable amplifier/attenuator means coupled to the filter means; and

processing means for controlling the amplifier/attenuator means, said processing means determining audio power in said frequency bands representing relevant loudspeaker protection

10 information, and selectively controlling said controllable amplifier/attenuator means in response to the determined audio power in at least one of said plurality of frequency bands,

characterized in that output means of said amplifier/attenuator means is coupled to a first terminal of a loudspeaker, and the

15 loudspeaker protection system further comprises a measuring element coupling a second terminal of the loudspeaker to ground,, a common connection point between the loudspeaker and the measuring element being coupled to the processing means, whereby actual impedance data of the loudspeaker as determined by the measuring element is  
20 taken into account by the processing means.

9. (Cancelled).

10. (Cancelled).

11. (Previously Presented) The loudspeaker protection system as claimed in claim 6, characterized in that the processing means determines  $S_j$  or any summation thereof every 0.1 - 1 sec.

12. (Previously Presented) The loudspeaker protection system as claimed in claim 8, wherein said measuring element is a resistor.